

5/5/3
01925619
SEMICONDUCTIVE ROTATION SENSOR

PUB. NO.: 61-139719 [JP 61139719 A]
PUBLISHED: June 27, 1986 (19860627)
INVENTOR(s): TOMINAGA TAMOTSU
APPLICANT(s): NISSAN MOTOR CO LTD [000399] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 59-260782 [JP 84260782]
FILED: December 12, 1984 (19841212)
INTL CLASS: [4] G01D-005/18
JAPIO CLASS: 46.1 (INSTRUMENTATION -- Measurement)
JOURNAL: Section: P, Section No. 515, Vol. 10, No. 334, Pg. 145, November 13, 1986 (19861113)

→ cite as JP 3-94926 11/1991 →
QR1

ABSTRACT

PURPOSE: To enhance sensitivity, by providing a slit to the central part of the beam in the vicinity of a cantilevered beam and forming piezoelectric resistor elements to both sides of the slit in parallel to the longitudinal direction of the cantilevered beam.

CONSTITUTION: When the signal with resonant frequency of a cantilevered beam 1 is applied to a semiconductive rotation sensor from an oscillator 7 through an electrode 4, the free end 2 of the cantilevered beam 1 vibrates at the resonant frequency. When the cantilevered beam 1 is rotated around a rotary axis to the direction shown by the arrow in this state, Coriolis's force shown by the arrow 10 is applied. This force is added to one side of a slit as compression stress and added to the other side thereof as tensile stress. Because the slit 6 is provided to the central part of the cantilevered beam 1 and a piezoelectric resistor element is formed in parallel to the longitudinal direction of the cantilevered beam 1, deformation stress can be concentrated to the piezoelectric resistor element and the stress of a largely deformable part can be detected and, therefore, sensitivity can be enhanced.